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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/721,631	11/25/2003	Henry A. Blauvelt	XPNT31NP	7735
36394	7590	09/23/2005	EXAMINER	
CHRISTIE, PARKER & HALE, LLP 350 W. COLORADO BLVD. SUITE 500 PASADENA, CA 91105			LEE, JOHN D	
			ART UNIT	PAPER NUMBER
			2874	

DATE MAILED: 09/23/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/721,631

Applicant(s)

BLAUVELT ET AL.

Examiner

John D. Lee

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 2 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☒ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-55 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-55 is/are allowed.
- 6) ☐ Claim(s) \_\_\_\_ is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 25 November 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 0904.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_.

The twenty-four (24) sheets of drawing filed in this application on November 25, 2003, are acceptable.

The preliminary amendment filed on March 24, 2004, has been received and entered.

The specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

Claims 21-23, 25, 39-41, and 44-47 are objected to because of the following informalities: In line 1 of each of claims 21 and 22, "the inner face" should actually be "the end face" since there is no antecedent support for the presently used term. In claim 23, line 2, it is believed that the word "refracted" should be changed to "reflected" because if the waveguide end face is tilted downward and the photodetector is located on the "roof" of the detection volume, reflection (not simple refraction) would be required in order for the light from the waveguide end face to reach the photodetector. In line 1 of claim 25, "are" should be inserted after "walls". In the last line of each of claims 39-41, 44, and 47, the term "photodetector" should actually be "detector substrate". In line 1 of claim 45 and in lines 1-2 of claim 46, "the inner face" should actually be "the end face" since there is no antecedent support for the presently used term. In claim 46, line 2, the word "is" should be deleted. In claim 47, line 2, it is believed that the word "refracted" should be changed to "reflected" because if the waveguide end face is tilted downward and the photodetector is located on the "roof" of the detection volume,

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reflection (not simple refraction) would be required in order for the light from the waveguide end face to reach the photodetector. Appropriate correction is required.

Claims 1-55 are allowed. The prior art does not disclose or suggest an optical apparatus having walls and a bottom surface on a substrate defining a detection volume, an optical waveguide penetrating one of the walls so as to emit light into the detection volume, and a photodetector mounted on a detector substrate which is positioned to form a "roof" or "lid" for the totally enclosed detection volume. The prior art made of record herein and discussed below represents the closest known prior art, but this prior art does not disclose or suggest an optical apparatus having all the features just described.

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. U.S. Patent 5,966,478 to Marcuse et al shows an optical waveguide coupling device which operates similarly to that of applicant's claims (FIGURE 1 – PRIOR ART), but which is not totally enclosed with walls on all sides.

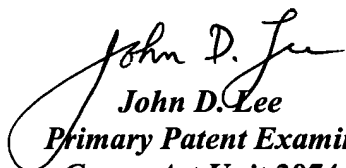
All of the prior art documents submitted by applicant in the Information Disclosure Statement filed on September 8, 2004, have been considered and made of record (note the attached initialed copy of form PTO-1449). The cited U.S. Patents to Kawachi et al, Taneya et al, Fujimura et al, Gilliland et al, and Ukechi et al show related walled structures forming optical waveguide/photodetector coupling devices, but none has the same structure being claimed herein. It is noted that these five (5) U.S. Patents were cited and discussed in the corresponding International Application PCT/US03/37457.

This application is in condition for allowance except for the following formal matters: the objections to the claims as outlined above.

Prosecution on the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

A shortened statutory period for reply to this action is set to expire **TWO (2) MONTHS** from the mailing date of this letter.

Any inquiry concerning the merits of this communication should be directed to Examiner John D. Lee at telephone number (571) 272-2351. The Examiner's normal work schedule is Tuesday through Friday, 6:30 AM to 5:00 PM. Any inquiry of a general or clerical nature (i.e. a request for a missing form or paper, etc.) should be directed to the Technology Center 2800 receptionist at telephone number (571) 272-1562, to the technical support staff supervisor (Team 8) at telephone number (571) 272-1564, or to the Technology Center 2800 Customer Service Office at telephone number (571) 272-1626.

  
**John D. Lee**  
**Primary Patent Examiner**  
**Group Art Unit 2874**